

Dynamization techniques. Divergences between the proposals of Hahnemann and today's practices.

In 1992 a group of medical doctors and pharmacists⁽¹⁾ compared Hahnemann's guidelines on the preparation of homeopathic medicines with the proposals of pharmacopoeias and textbooks on homeopathic medicines⁽¹⁾.

Homeopathy developed substantially in Brazil in the past few years. New editions of pharmacopoeias, both Brazilian and foreign, were published or became accessible, in addition to specific books on homeopathic pharmaco-techniques. There was a large increase in homeopathic training. Currently the teaching of homeopathic pharmaco-techniques extends to diverse diploma courses, including obligatory and optional disciplines. Was there any change in relation to a better understanding of the fundamentals established by Hahnemann? Gauging the desired levels might make it possible to compare results obtained by different applications of the homeopathic therapeutic method, with those achieved by diverse pharmacopoeia proposals.

Objectives

- Highlight the propositions of Hahnemann for the preparation of homeopathic medicines.
- Demonstrate that there are different pharmaco-techniques between Hahnemann's proposals and a large extent of what various pharmacopoeias and textbooks prescribe.
- Reflect upon the possible consequences of the differences in medicine preparation on their effectiveness.
- Collaborate for a gauging of dynamization techniques, and, consequently, on the results and comparisons of homeopathic therapeutics.

In order to achieve our objectives, we used the 6th edition of the Organon by Hahnemann⁽¹⁰⁾, comparing diverse topics selected as key aspects of pharmaco-techniques with what is found in current editions of the Brazilian pharmacopoeia, and a diversity of textbooks. The 6th edition of the Organon⁽¹¹⁾ and the book on chronic diseases (Doenças Crônicas)⁽¹²⁾ as well were used to compare with centesimal dynamizations.

TABLE I: Comparison of differences observed in the guidelines of homeopathic medicine preparation technique in the centesimal scale, proposed by Hahnemann and findings in various bibliographic references.

HAHNEMANN	BIBLIOGRAPHIC REFERENCES
Grinding	
All substances need to be grinded ⁽¹²⁾ .	No need to triturate ⁽⁵⁻¹⁶⁾ .
Stages of grinding	
Three grindings of one hour each, made in three stages, each comprising two times 6-7 minutes of grinding and 3-4 minutes of grating (i.e. 18 steps of grinding) ⁽¹²⁾ .	One stage, undefined time ^(3, 13, 17, 20) ; three stages of six minutes each ⁽¹⁹⁾ ; six stages of six minutes ^(3, 21) ; 18 stages of six minutes ^(16, 15) .
Intensity/strength of grinding	
Strong, such that lactose not be compressed against mortar and be grated in four minutes ⁽¹²⁾ .	German pharmacopoeia mentions intensity, requiring that after the first six stages, 80% of particles have a diameter of less than 10 microns, and none be larger than 50 microns ⁽¹⁴⁾ . Grind vigorously ⁽⁷⁾ .
Method for the addition of lactose	
Three de-concentrations in a series, in a proportion of 1:100, resulting in a product a million times more diluted than the initial one. In each stage, one grain (0,06g) is de-concentrated with 100 grains of lactose (6g), divided in three equal and successively increased parts. ⁽¹²⁾	Continuous increase of lactose, up to 100 times the weight of the grinded substance ^(3, 17, 18, 20) ; the proportions of lactose correspond to 1/11, 1/33 and 1/55 of the 100 grains ⁽¹⁶⁾ ; only two attenuations at 10% ⁽²¹⁾ ; only proportions are mentioned ⁽¹³⁾ .
Number and intensity of succussions	
Two, ten or more succussions, performed with "some strength" ⁽¹²⁾ .	Ten succussions ^(16, 15) ; ten to 12 ⁽²¹⁾ ; at least ten ⁽¹⁴⁾ ; 100 ^(7, 6) ; at least 100 ^(3, 17, 18, 20) ; 200 ⁽¹⁹⁾ ; not mentioned ⁽¹³⁾ . Regarding intensity: vigorous ⁽¹³⁾ ; energetic ⁽⁶⁾ ; other do not specify ^(17, 21, 20) .

Demonstration of different pharmaco-techniques

1 - The process of dynamization

"Homeopathic medicine developed, for its special uses, and to a hitherto unheard degree, the internal medical powers of crude substances, through a peculiar process known as dynamization⁽¹⁰⁾. This process depends on:

- The intensity, and quantity of mechanical action (triturations or grinding and succussions) applied;
- The relationship between the attenuation means (lactose, alcohol or distilled water) and the substance to be dinamized.

The first factor refers to the amount of energy applied on the system, and the second relates to the proportion of dilution (or de-concentration) of the initial and submitted matter, at each degree of potency.

*2 - Comparative analysis between the Hahnemannian centesimal method (before the publication of the 6th edition of the Organon) and current practice.

The table below includes various critical topics of the Hahnemannian centesimal method, comparing the original proposal with current practices.

3 - Comparative analysis between the fifty-milesimal Hahnemannian (6th Edition of the Organon) and those currently practiced

Hahnemann considered his method, known today as LM or fifty-milesimal, as the most developed for dynamization. In a previous study, published in 1992, this method included the German and Indian pharmacopeias, although with differences from the original Hahnemannian proposal^(14, 16, 8, 4). Today it appears in the Brazilian, American and Mexican homeopathic pharmacopeias^(7, 13, 6).

Are the failings observed in clinic homeopathy caused, at least partly, by divergences in the methods used for the preparation of medicine?

Discussion

Dinamized medicine in the centesimal scale were described in the pharmacopeias and textbooks reviewed. The only expected change would be a modification in the standardization of the processing stages by the homeopathic practitioner. However, this modification did not occur, and the statements about the use of grinding, even for soluble substances, as proposed by Hahnemann in 1835, long before the 6th edition of the Organon, and therefore applied to centesimal potencies, are still a cause for concern, even among homeopathic pharmacists^(4, 5, 12).

A change related to the increased awareness of the fifty-milesimal method in the more recent editions of international homeopathic pharmacopeias. If in 1992 the method was only included in the German and Indian pharmacopeias, today it is also found in the Brazilian, American and Mexican ones^(6, 7, 13, 14, 16).

It is important to discuss a number of topics, that in our opinion are still incomplete and even incorrect, both for the methods of the 5th as well as the 6th edition of the Organon by Hahnemann.

It is worth mentioning that Hahnemann went from the use of dry plants and juices from fresh plants to tints, preferably achieving a grinding of all crude material (understood as plants and fresh animals). If his medicines, in those times, were dinamized in the centesimal scale, he clearly referred to initially grind substances that were then made soluble, diluted in the proportion of 1:100 and

TABLE II: Comparison of differences observed in the guidelines of homeopathic medicine preparation technique in the fifty-centesimal scale proposed by Hahnemann, and findings in various bibliographic references.

HAHNEMANN	BIBLIOGRAPHIC REFERENCES
Grinding, stages, intensity/strength, addition of lactose	
Same as described for centesimal ⁽¹⁰⁾ .	Differences described in Table I.
Number and intensity of succussions	
100 vigorous succussions ⁽¹⁰⁾ .	No specification on the number of succussions ⁽¹³⁾ and/or strength of succussions ^(7, 13, 15, 2)
Globules	
The previous solution (degree I) is used for humidification of globules of a determined weight (100 weight 1 grain, or 0,06g) ⁽¹⁰⁾ .	The correct mass of globules is specified by some authors ^(3, 7, 13, 16) ; and not by others, who either do not describe them or do so incorrectly ^(14, 15) . An impregnation requirement of 500 globules ^(7, 2) .

dinamized through two moderate succussions. It can be verified by the following phrase:

“After the initial grinding, 1 grain of degree I potency (or from the 3rd Product of grinding) needs to be diluted in 100 drops of a hydro-alcoholic solution (50 drops of water and 50 drops of alcohol), and then this solution needs to be shaken twice with a moderate intensity. One drop of this solution needs to be added to 99 or 100 drops of pure alcohol, and then two moderate succussions need to be applied.⁽¹²⁾”

The description of the process of grinding is mentioned in the preface, in the chapter of medicine, Chronic Illnesses, and later in paragraph 270 of the 6th edition of the Organon. In this way, there are no reasons to modify the proposed technique, either by a change in time, by the sequence of grinding/grating or the addition of a solid diluent, lactose.

The solubilization of the 3rd grinding was proposed as 1 grain (0,06g) in 100 drops of a hydro-alcoholic solution, composed of 50 drops of water and 50 drops of alcohol⁽¹²⁾. It is important to mention that the ethanol available in Europe, even today, is of a lower alcoholic degree. It is assumed that Hahnemann must have had alcohol with strength of close to 52%⁽⁴⁾. Thus, the solution in equal parts would be closer to 26% and not 50%, with the ability of making a solution through the grinding in lactose.

The number of succussions was altered in the various phases in which Hahnemann tested his medicines. He only used two, afraid of the violent effects that medicine dinamized with more succussions might produce in weak or sensible patients^(12,9). It is noteworthy that in each step a dynamization with ten succussions exceeded the moderating capacity that the attenuation of the proportion of 1:100 on the strength of the medicine. Thus, he did not achieve his aim to moderate to a certain level the effectiveness of the medicine, in terms of increasing its power to penetrate⁽¹²⁾. In 1837, Hahnemann began to prepare medicine with increases of ten succussions, addressing the problem of the violent effects of a single dose (be it in globule, or its solution - as he used globules to dispense liquids to his patients), splitting the single dose in various smaller doses to be taken daily, or in alternate days, during a period of 15, 20 or 30 days⁽¹²⁾.

His response to critics who doubted the effectiveness of dynamizations was curious, recommending the application of 10, 20, 50 or more succussions, as in this way more potent medicine would be produced. He suggested that if the solutions were mere dilutions destitute therapeutic activity, just by shaking them they would become more potent⁽¹²⁾.

This happened in 1838, four years prior to his death, and before the publication of the 6th edition of the Organon. This text, known only many years after his death, reiterated the dangers of diverse vigorous shaking applied to a solution of 100:1. He presented a new method, that according to his experience, conciliated the effectiveness with softness of action, through the application of 100 vigorous succussions on a dilution in excess of 50.000:1⁽¹⁰⁾. In this way we can understand the reasons why Hahnemann varied the number and the strength of the succussions. In the centesimal method, the preparation of dynamizations with more than two succussions (the original indication of the 5th edition of the Organon⁽¹¹⁾), was linked to the indication of a fragmentation of the therapeutic dose. He increased the number of succussions when he prepared solutions of centesimal potencies, administered in various daily doses. Until 1837 Hahnemann used two succussions for his dynamizations. From this date on, he started to use ten or more. We cannot consider the existence of a pharmaco-technical pattern related to the number of succussions for centesimal analysis, as Hahnemann evolved the number of succussions in addition to the posology. Starting in 1837, there was an association of the dispensation of solutions in globules, splitting them in doses to be ingested in various days. This dose previously was single and now allowed for a relative control of treatment. Later, he found a method to increase dilution, allowing the shaking in a larger number of times and with more strength, achieving a medicine that combined softness (probably due to its dilution) with effectiveness (due to numerous and stronger succussions).

Considering LMs, it is interesting to note that in a different manner from centesimals, which were altered during many decades, the fifty-milesimals were introduced in their definitive form almost a hundred years after the death of Hahnemann. In principle this should lead towards the single and correct following of the technique. However, this has not happened yet, when we compare the determinations of Hahnemann with those found in literature. The variations were highlighted by several authors^(8,4,5).

In the case of the fifty-milesimals, we note that the rules for grinding, a standard for this new method, relate to the material to be grinded (in its crude state), or to the stages, their duration, proportion of lactose and intensity, as were described earlier⁽¹⁰⁾.

After solubilization of 1 grain of the 3rd grinding in 500 drops of a solution formed by 4 parts of water and 1 part of alcohol, a drop is added to 100 drops of ethanol. The shaking of this solution must be vigorous, as

Hahnemann states, in a different manner than the former ones. We think that this difference needs to be kept. When the use of non-manual dynamization is chosen, with the aid of a device known as “mechanical arm”, it is not possible to keep this difference. We thus defend manual succussions, and that they be vigorous.

In relation to the stage of humidification of the globules, it is important that their size be specified, and followed. The use of larger than prescribed globules leads to a smaller material de-concentration of potencies. It is essential that the globules be standardized in terms of their mass. In their production, globules are split with the use of wire mesh; this is related to their size and not their mass. The possibility that globules of different lots present the same size, but different mass, or vice-versa, has been observed. Perhaps this fact is linked to globules with different surface, rugosity and/or density. These are aspects that need to be studied in the future, in a way to guarantee the standardization of the amount of dynamization absorbed in each stage, and therefore increased to the next potency.

There is no need to use 500 globules, but of using globules of a standard size, as well as guaranteeing their complete humidification. Hahnemann does not impose the use of exactly 50 globules, but he affirms that the globules must be of such a size so that 500 of them can be humidified with 1 drop of solution. This does not mean that a larger number (for example 700) could not be completely humidified with 2 drops of dilution, and that the excess be dried with paper, in conformity with indications found in paragraph 270 of the 6th edition of the *Organon*⁽¹⁰⁾.

The German pharmacopoeia⁽¹⁴⁾ favors the use of globules of such a size that between 470 a 530 weight a gram (and not that 100 weight 1 grain, or 0,06g). In this case, 500 globules will weight 5 times, or 0,3g, and not 1g, as mentioned in the pharmacopoeia. The use of larger globules than indicated leads to a smaller dilution, and possibly to a larger frequency of aggravations. According to Grimm, the pharmacopoeic potency would be equivalent to a material de-concentration of nearly 22,700 times, and not of at least 50,000, as Hahnemann intended.^(8, 4, 5)

Martinez⁽¹⁵⁾ established that globules should be used in such a way that 500 be soak in one drop of dynamization, without considering the size of the globules. In truth, the standards are the mass of the globules and their complete humidification, not their number. Hahnemann stated the following:

“A globule made of lactose and starch, of indeterminate dimensions, but with average dimensions such that 100 weight 1 grain, ‘will carry with them’ a fraction of less

than 1/500 of a drop of alcohol. Thus, this globule will offer a dilution higher than 1/500 when well humidified with such a fraction of a drop of a determined potency, to be used for the preparation of the next potency.”⁽¹⁰⁾

Probably due to the fact that the 6th edition of the *Organon* was published almost 100 years after Hahnemann’s death, it is easy to believe that its publication generated doubts in its veracity. During several years this fact reduced its acceptance. The globules also offer supply problems, with the appropriate quality. The largest difficulty refers to the grinding of fresh substances. If we add the fact that that plant and animal material be used in their habitat, this limits most homeopathic manufacturers from preparing potencies of fifty-milesimals with an ideal quality.

The differences demonstrated lead to the following probable clinical consequences:

- Non grinding or incomplete grinding, or done during insufficient time, will result in a probable loss of medicinal potency, in relation to the same product, if it were grinded according to Hahnemann’s guidelines. This statement is valid for centesimal and for fifty-milesimal potencies.
- The technical uniformity as determined by Hahnemann is also broken when the norms related to intensity or homogeneity of grinding are not respected.
- Many (100) vigorous succussions (when a factor of dilution of 100:1 is used) can result in too violent medicines, with possible dangers to human life, when one of these medicines, correctly selected, is administered to weak or excessively sensitive patients, according to Hahnemann^(11, 12).
- There is a registry of the use of globules of larger mass and size than the Hahnemannian standard. This fact should lead to an increased quantity of dynamization to be transferred to the preparation of the next potency, or, a reduced material de-concentration (dilution). The larger the used globule, the smaller the dilution, as the globule needs to be saturated with the dynamization during its impregnation. As a result, medicines should be less potent, and with a more violent action, leading to a higher frequency of aggravations. The use of non standardized globules will impede the comparative analysis of results.

Conclusions

With the review of a similar work published in 1992 it was possible to observe that the propositions of Hahnemann for the preparation of homeopathic medicines are still integrally followed. There are pharmacotechnical differences between the proposals of

Hahnemann and a large part of various pharmacopeias and textbooks, especially in the pharmaco-technical description of grinding, use of fresh material and number of succussions, for centesimals. For fifty-millesimals, beyond the topics mentioned, there are differences in the size of globules and in the intensity of succussions. Medicines prepared in various manners receive the same denomination, even when their effectiveness is probably different.

In regard to possible consequences of differences in the preparation of medicines on their effectiveness, it can be assumed that these are less diluted, and thus less potent, with a more violent action, leading to a higher frequency of aggravations.

Once we accept that it is necessary to follow the indications established by Hahnemann for the preparation of homeopathic medicine, emphatically spreading his guidelines, we think that we are collaborating with the standardization of dynamization techniques, and that, consequently, to the effectiveness of homeopathic medicines.

Finally, more effective homeopathic medicines can bring superior therapeutic results, to the benefit of consumers and patients of homeopathic therapies, as well as a result of research and comparisons of methods, scales, and clinical experiences.

Recommendations

As there are divergences between various authors after Hahnemann, we suggest that before we create modifications, a serious effort to review all critical aspects of the Hahnemannian method be addressed. This should also include the adequate following of his guidelines, given the relevance of the teachings of the author who regulated the therapeutic application of the Law of Similarity, as well as the 40 years of experimental development using homeopathic dynamizations.

We wish to thank the financial and bibliographic support of HNCristiano; and LMHI (Dr. Sandra Chase) for the HPUS 9th edition.